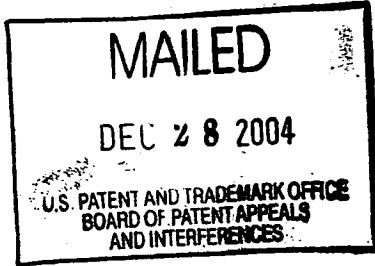


The opinion in support of the decision being entered today was **not** written for publication and is **not** binding precedent of the Board.

UNITED STATES PATENT AND TRADEMARK OFFICE

BEFORE THE BOARD OF PATENT APPEALS
AND INTERFERENCES



Ex parte KENNETH JAMES PETTIPIECE and
WILLIAM BRADSHAW AMOS

Appeal No. 2005-0251
Application No. 09/536,932

ON BRIEF

Before HAIRSTON, LEVY, and BLANKENSHIP, Administrative Patent Judges.

HAIRSTON, Administrative Patent Judge.

DECISION ON APPEAL

This is an appeal from the final rejection of claims 12, 13 and 23 through 26.

The disclosed invention relates to a spectral imaging system that provides an image of a sample to a detector array, a processor and a monitor. An interferometer used in the spectral imaging system includes a polarizing beam splitter that substantially

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reflects a first preferred polarization and substantially transmits a second polarization.

Claim 12 is the only independent claim on appeal, and it reads as follows:

12. A spectral imaging system configured to provide an image of a sample, comprising:

a source for illuminating said sample with radiation within a first band of wavelengths, wherein said first band of wavelengths excites regions within said sample causing said regions to emit radiation within a second band of wavelengths;

an interferometer for spectrally resolving said wavelengths within said second band of wavelengths, wherein said interferometer creates an interferogram of said sample that is superimposed on an image of said sample transmitted by said interferometer, wherein said interferometer includes:

at least two turning mirrors; and

one polarizing beam splitter,

wherein said polarizing beam splitter substantially reflects a first polarization and substantially transmits a second preferred polarization;

a detector array, wherein said sample and said interferogram of said sample are imaged on said detector array, wherein said detector array outputs a plurality of signals corresponding to an intensity at each pixel of said array; and

a processor coupled to said detector array and coupled to a monitor, said processor displaying an image of said sample on said monitor.

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The references relied on by the examiner are:

Hock	3,822,942	July 9, 1974
Cabib et al. (Cabib)	5,539,517	July 23, 1996
McNamara et al. (McNamara)	6,007,996	Dec. 28, 1999

Claims 12, 13 and 23 through 26 stand rejected under 35 U.S.C. § 103(a) as being unpatentable over McNamara in view of Cabib and Hock.

Reference is made to the briefs and the answer for the respective positions of the appellants and the examiner.

OPINION

We have carefully considered the entire record before us, and we will sustain the obviousness rejection of claims 12, 13 and 23 through 26.

We agree with the examiner's findings (answer, pages 4 and 5) that McNamara discloses a source of illumination, an interferometer that includes at least two mirrors and one beam splitter, a detector array, a monitor and a processor coupled to the detector array and the monitor. We additionally agree with the examiner's findings (answer, page 5) that McNamara does not disclose rotating/turning mirrors and a polarizing beam splitter as set forth in the claims on appeal. Although the examiner is of the opinion (answer, page 5) that Cabib discloses rotating/turning mirrors, we find that Cabib discloses a rotating beamsplitter 113

as opposed to a rotating/turning mirror (Figure 10; column 14, lines 58 through 65).

With respect to the examiner's findings (answer, pages 5 and 6) that Hock discloses a polarizing beam splitter in Figure 9, appellants argue (brief, page 4) that "Hock describes figure 9 in columns 9-10 and no mention is made about the Sagnac interferometer substantially reflecting a first polarization and substantially transmitting a second preferred polarization." In the paragraph that bridges columns 9 and 10, Hock states the following:

In an interferometer of the Sagnac type, shown in FIG. 9, a laser (not shown) at 911 illuminates a polarization dividider [sic, divider] mirror 913 with light which is circularly polarized or linearly polarized at 45° to the plane of the drawing. There are generated two partial ray bundles, vibrating perpendicularly to one another and rotating to the right or respectively left, which, after turning round via reflectors 915, 915a leave the interferometer again loss-free, as the ray bundle firstly transmitted is also transmitted again after turning round, while the firstly reflected ray bundle is also reflected again after turning round.

Appellants' arguments to the contrary notwithstanding, we find that the excerpt from Hock makes clear that a beam that is transmitted through beam splitter mirror 911 rotates in one direction to produce a "first polarization," and that a beam that is reflected from beam splitter mirror 911 rotates in another direction to produce a "second preferred polarization." Hock discloses (column

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9, lines 62 through 67) that the rotating ray bundles that are transmitted and reflected by beam splitter mirror 911 are rotated again by reflectors 915 and 915a. In view of the teachings in Hock, we additionally find that Hock discloses "at least two turning mirrors" (i.e., reflectors 915 and 915a) as well as "one polarizing beam splitter" (i.e., beam splitter mirror 911) as set forth in claim 12.

In summary, the obviousness rejection of claim 12 is sustained based upon the teachings of Hock. In sustaining a multiple reference rejection under 35 U.S.C. § 103(a), the Board may rely on one reference alone without designating it as a new ground of rejection. In re Bush, 296 F.2d 491, 496, 131 USPQ 263, 266-67 (CCPA 1961); In re Boyer, 363 F.2d 455, 458, n.2, 150 USPQ 441, 444, n.2 (CCPA 1966). The obviousness rejection of claims 13 and 23 through 26 is likewise sustained because appellants have chosen to let these claims stand or fall with claim 12 (brief, page 3).

DECISION

The decision of the examiner rejecting claims 12, 13, and 23 through 26 under 35 U.S.C. § 103(a) is affirmed.

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No time period for taking any subsequent action in connection with this appeal may be extended under 37 CFR § 1.136(a).

AFFIRMED


KENNETH W. HAIRSTON
Administrative Patent Judge


STUART S. LEVY
Administrative Patent Judge

Howard B. Blankenship
HOWARD B. BLANKENSHIP
Administrative Patent Judge

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